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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/260,160 06/15/94 UNGCHUSRI

T 6311607

EXAMINER

SHACKELFORD, H

35M1/0413

ART UNIT

PAPER NUMBER

5

3501

DATE MAILED:

04/13/95

FMC CORPORATION  
PATENT DEPARTMENT  
200 E RANDOLPH DRIVE  
CHICAGO IL 60601

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.      | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.                  |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____  |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-17 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-17 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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1. This application does not contain an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b). An Abstract on a separate sheet is required.
2. The drawings are objected to because they do not include certain reference signs mentioned in the description. 37 CFR § 1.84(f) states, "Reference signs not mentioned in the description shall not appear in the drawing and vice versa." The following reference numbers are not included in the drawings: 116, 124, 134, 144, 146, 148, and 424. Correction is required. Applicant should review the specification and the drawings to ensure that no other reference numbers have been omitted.
3. The drawings are objected to because the half of figure 3 is not designated by a legend such as "Prior Art". The legend is necessary in order to clarify ~~what~~ applicant's invention. MPEP § 608.02(g). Correction is required.
4. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use

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the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure. On page 5, last 6 lines, a more comprehensive explanation is requested in describing the offset center points and the straight line portion formed by the offset. It seems as if the radii can be either "offset" or "elongated". It is unclear what is meant by an "offset elongated radii." It seems as if the center point should be 428 and that the offset center point should be 426 according to the drawing figure 4b since the apex 422 is associated with the point 428.

Also, figure 4b has labelled three radii lines to be .1875R from point 428, to the female groove 418 as well as the male grooves. However, the specification has labelled 428 as the "offset center."

5. Claims 9-12 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

*And 13a*  
6. Claims 1-5<sub>a</sub> rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and

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distinctly claim the subject matter which applicant regards as the invention.

In claim 1, second paragraph, the claims states that "said outer groove each having a generally constant radius measured from the central axis." Then the claims goes on to state that "each said outer groove has a greater radius than each adjacent outer groove closer to the first end." In the former phrase, the grooves are said to have a constant radius, and in the latter phrase the grooves close to the first end is said to have a greater radius. These two phrases seem to be conflicting.

It is also unclear whether there are a plurality of grooves on each plane, or whether there are a plurality of planes perpendicular to the central axis with one groove corresponding to each plane.

In claim 13, "oppositely opposed" seem redundant. Also, lines 3-4, the location of the outer annular grooves is unclear. Are they located on one or both of the connecting members? In line 6, it appears that the term "each" should be --one--.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 9-12 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Press or German reference 1,907,428.

9. Claims 13-17 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Ungchusri et al. 4,930,791.

Ungchusri et al. 4,930,791 (figure 2) discloses the invention substantially as claimed including a pair of opposed pipe ends 32 with a collar coaxially aligned thereof and a seal assembly 8. In col. 3, lines 50-57, Ungchusri teaches that a plurality of ball bearing can also be used, which would require the arcuate grooves as claimed (see figs 4-6).

10. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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11. Claims 1-8 are rejected under 35 U.S.C. § 103 as being unpatentable over Taeuber, Jr. et al. in view of Phillips or Ashton.

Taeuber, Jr. et al. discloses the invention substantially as claimed. However, the bearing member is not a plurality of ball bearings in grooves as claimed.

Phillips and Ashton both teach the use of using a plurality of ball bearing as claimed, in a pipe swivel joint.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the plurality of ball bearings as seen in Phillips or Ashton to the swivel joint by Taeuber, Jr. et al. since both types of bearing elements are readily used in this area of endeavor, as evidence by the prior art.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Waters discloses rings d, d' disposed at different distances from the central axis.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Shackelford whose telephone number is (703) 308-2978.

hcs  
March 31, 1995

*hcs*  
3/31/95

*Randolph A. Reese*  
RANDOLPH A. REESE  
SUPERVISORY PATENT EXAMINER  
ART UNIT 351